

Amendments to the Drawings:

The attached replacement sheet of drawings includes changes to Figure 1.

REMARKS

Claims 4, 35 and 37 are cancelled. Claims 1-3, 5, 6, 7-8, 10-12, 14-15, 16, 17-25, 27-28, 30-32, 34, 36 and 38-40 are amended. The amendments are supported by the application as originally filed, and no new matter is added.

The drawing is objected to for failing to describe in the specification element 19 of the drawing. A replacement drawing is submitted with reference numeral 19 deleted. Element 19 identifies an end seal for an electrolytic capacitor that is not an element of any claim. Applicants request that the objection be withdrawn.

The drawing is objected to for failing to clearly describe element 7 in the specification. The paragraph beginning on page 21, line 19 of the specification is amended to expressly describe the laminate structure indicated by reference numeral 7. Applicants request that the objection be withdrawn.

The formula for phenol on page 12, line 29 is objected to as incorrect. The paragraph is amended to show the correct formula. Applicants request that the objection be withdrawn.

The list of representative compounds with unsaturated bond-containing chains having a molecular chain with a carbon-carbon or carbon-nitrogen π bond at page 12 beginning on line 31 includes compounds that do not have this structure. The list of examples is amended to delete the objected to compounds. Applicants request that the objection be withdrawn.

Claims 12, 19 and 32 are objected to for informalities relating to typographical errors. The claims are amended to correct the errors. Applicants request that the objection be withdrawn.

Claims 10, 11, 30, 31 and 34 include the phrase "such as" or "like" that are given no patentable weight. The claims are amended to delete the narrowing phrases.

The specification is objected to for failing to recite the claimed amount of carboxylic acid in claim 6. The specification is amended at end of the paragraph beginning at page 7, line 16 to recite the claimed amount. Applicants request that the objection be withdrawn.

Claims 1-3, 5, 7-9, 12-16, 25, 27-29 and 32-34 are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter not described in the specification. In particular, the claims do not require the presence of an electrolyte as described in the specification. Applicants traverse the rejection to the extent that it can be maintained.

Claims 1 and 2 are independent claims and are amended to recite "at least one type of electrolyte selected from the group consisting of carboxylic acids or their salts or inorganic acids or their salts". Claims 3, 5, 7-9 and 12 depend from claim 1 and claims 25, 27-29 and 32-33 depend from claim 2. Claims 13-16 and 34 claim an electrolytic capacitor. Claims 14 and 15 are independent claims and are amended to recite an electrolyte solution according to the invention.

Claim 5 is amended to recite that the concentration of inorganic electrolyte is based on a weight percent of the electrolyte.

Applicants request that the rejection on this ground be withdrawn.

Claims 10, 11, 17-24, 30-31 and 35-40 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants traverse the rejection to the extent that it can be maintained. Claims 35 and 37 are cancelled.

Claims 10, 11, 30 and 31 depend from amended claims 1 or 2 that provide proper antecedent basis for carboxylic acids or inorganic acids and their salts.

The Office Action asserts that claims 17-24 and 35-40 are indefinite since they teach that the unsaturated compound is not present in the solution as required by claims 14 and 15. Claims 17-24 depend directly or indirectly from claim 14, and claims 35-40 depend from claim 15 (claims 35 and 37 are cancelled). Claims 14 and 15 are amended to remove possible ambiguity with respect to the composition of the electrolyte solution recited in these two claims. Claims 14 and 15, as amended, define an electrolytic capacitor comprising a compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction and an electrolyte solution. Clearly, the amended claims 14 and 15 do not require that the unsaturated compound is present in the electrolyte solution. The unsaturated compound may be on an electrode surface or in a separator. This structure is supported by the description at page 8, lines 23-32, page 20, line 23-32 and examples 11 and 12.

The Office Action also asserts that claims 17-24 and 35-40 are indefinite since it is implied by claims 19 and 22 that the electrolyte solution of the claimed capacitor naturally coats the electrode and separator, inherently produces the claimed capacitor. As explained above, amended claims 14 and 15 do not recite the unsaturated compound as an element of the electrolyte solution. The specification at page 20, lines 33-37 describes dissolving the unsaturated compound in a suitable solvent and applying the solution to an electrode or a separator.

Applicants respectfully submit that the amendments to claims 14-15, 17-24 and 35-40 remove the perceived indefiniteness and request that the rejection on this ground be withdrawn.

Claims 1-6, 8-15, 17-26, 28-33 and 35-40 are rejected under 35 U.S.C. §102(b) as being anticipated by Tsubaki et al. (US 6,307,732). Applicants traverse the rejection to the extent that it may be maintained. Claims 4, 35 and 37 are cancelled.

Applicants' invention relates to an electrolytic capacitor and an electrolyte solution for use in the capacitor. In particular, Applicants discovered a means to reduce a pressure increase in the capacitor from hydrogen gas generated in high temperature environments. Hydrogen pressure is reduced by including in the capacitor a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction. The unsaturated compound efficiently absorbs hydrogen generated in the capacitor by a chemical reaction thereby inhibiting deterioration of the capacitor.

The '732 patent discloses an electrolytic and an electrolyte solution used therein. However, the '732 patent fails to disclose the unsaturated, hydrogen-absorbing compound of the claimed invention. Applicants respectfully submit that '732 does not anticipate the rejected claims as amended and request that the rejection on this ground be withdrawn.

Claims 1-6, 8-15, 17-26, 28-33 and 35-40 are rejected under 35 U.S.C. §102(b) as being anticipated by Komatsu et al. (US 6,288,889). Applicants traverse the rejection to the extent that it may be maintained. Claims 4, 35 and 37 are cancelled.

Applicants' claimed invention is described above and includes a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes a hydrogen addition reaction. The '889 patent fails to disclose the unsaturated, hydrogen-absorbing compound of the claimed invention. Applicants respectfully submit that '889 does not anticipate the rejected claims as amended and request that the rejection on this ground be withdrawn.

Claims 8 and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Komatsu et al. (US 6,288,889). Applicants traverse the rejection to the extent that it may be maintained.

As discussed above, Applicants' claimed invention includes a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes a hydrogen addition reaction. The '889 patent discloses an electrolytic and an electrolyte solution

but fails to teach or suggest the unsaturated carbon-carbon or carbon-nitrogen π bond containing chain compound of the invention. Applicants respectfully submit that the rejected claims as amended are patentable over the '889 patent and request that the rejection on this ground be withdrawn.

Claims 1-3, 7, 9, 12-16, 25, 27, 29 and 32-34 are rejected under 35 U.S.C. §102(b) as being anticipated by JP 2000-173863. Applicants traverse the rejection to the extent that it may be maintained.

As discussed above, Applicants' claimed invention includes a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes a hydrogen addition reaction. The Applicants proffer that the cited JP reference does not either anticipate and/or teach such a compound. Accordingly, Applicants request that the rejection on this ground be withdrawn.

Claims 1-3, 7, 9, 12-22, 25, 27, 29 and 32-38 are rejected under 35 U.S.C. §102(b) as being anticipated by WO 2000/3337 and its US equivalent Komatsu (US 6,349,028). Applicants traverse the rejection to the extent that it may be maintained.

As discussed above, Applicants' claimed invention includes a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes a hydrogen addition reaction. The '028 patent discloses an electrolytic and an electrolytic solution but fails to disclose the unsaturated, hydrogen-absorbing compound of the claimed invention. Applicants respectfully submit that '028 does not anticipate the rejected claims as amended and request that the rejection on this ground be withdrawn.

Claims 1-4, 10-15, 25, 26, and 29-33 are rejected under 35 U.S.C. §102(b) as being anticipated by JP 2000-173872. Applicants traverse the rejection to the extent that it may be maintained.

As discussed above, Applicants' claimed invention includes a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes a hydrogen addition reaction. The unsaturated compounds disclosed by JP 2000-173872 contain carbon-oxygen or nitrogen-oxygen π bonds and not the claimed carbon-carbon or carbon-nitrogen π bonds. Applicants respectfully submit that JP 2000-173872 does not anticipate the rejected claims as amended and request that the rejection on this ground be withdrawn.

Claims 1-6, 9-15, 17-26, 28-33 and 35-40 are rejected under 35 U.S.C. §102(b) as being anticipated by WO 2000/33338 and its US equivalent Komatsu et al. (US 6,285,543). Applicants traverse the rejection to the extent that it may be maintained. Claims 4, 35 and 37 are cancelled.

As discussed above, Applicants' claimed invention includes a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes a hydrogen addition reaction. The unsaturated compounds nitrophenol, nitrobenzoic acid, dinitrobenzoic acid, nitroacetophenone and nitroanisole disclosed by US 6,285,543 contain carbon-oxygen or nitrogen-oxygen π bonds and not the claimed carbon-carbon or carbon-nitrogen π bonds. Applicants respectfully submit that the '543 patent does not anticipate the rejected claims as amended and request that the rejection on this ground be withdrawn.

Claims 8 and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over JP 2000-173872; WO 2000/3338 and US 6,285,543. Applicants traverse the rejection to the extent that it may be maintained.

As discussed above, Applicants' claimed invention includes a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes a hydrogen addition reaction. The unsaturated nitro compounds disclosed by JP 2000-173872 contain carbon-oxygen or nitrogen-oxygen π bonds and not the claimed carbon-carbon or carbon-nitrogen π bonds. Applicants respectfully submit that JP 2000-173872; WO 2000/3338 and US 6,285,543 do not teach or suggest all of the limitations of claims 8 and 28 as amended and request that the rejection on this ground be withdrawn.

Claims 1-4 and 7-40 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 6-16 and 21-30 of copending application 10/490651. Applicants traverse the rejection to the extent that it may be maintained.

Although patentable subject matter has not been determined, Applicants note that the '651 application claims an electrolyte solution which contains nitro or nitroso compounds that are not part of Applicants' claimed invention. The '651 application fails to teach or suggest all of the limitations of the present invention as claimed. Applicants request that the rejection on this ground be withdrawn.

Claims 1-3, 7, 9, 12-16, 25, 27, 29 and 32-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of US 6,349,028. Applicants traverse the rejection to the extent that it may be maintained.

Claims 1-4 and 7-40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of US 6,285,543. Applicants traverse the rejection to the extent that it may be maintained.

Claims 1-4, 8-15, 17-26, 28-33 and 35-40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of US 6,288,889. Applicants traverse the rejection to the extent that it may be maintained.

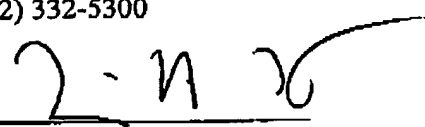
For the reasons stated above, the claims cited for the double patenting rejections with respect to each of the referenced patents fail to teach or suggest all of the limitations of Applicants' claimed invention. Specifically, the cited claims fail to teach or suggest a compound comprising an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes a hydrogen addition reaction. Applicants request that the rejections on this ground be withdrawn.

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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